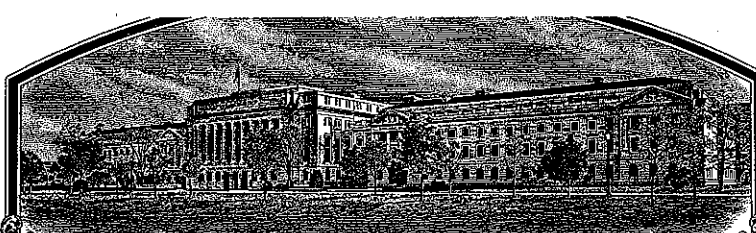


No.

200600299



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Ezra Zaden Reheer D. H.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

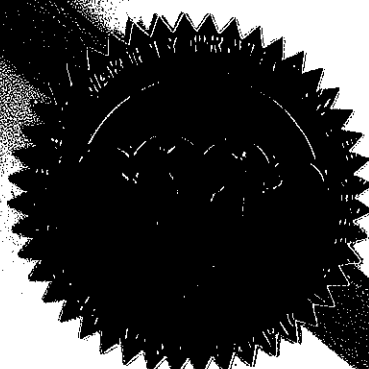
'Midway'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this seventh day of April, in the year two thousand and eight.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

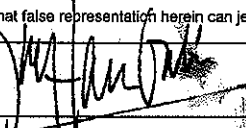
Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER ENZA ZADEN BEHEER B.V.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 14.1360CS		3. VARIETY NAME MIDWAY	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) POSTBUS 7, 1600 AA ENKHUIZEN HALING 1E, 1602 DB ENKHUIZEN THE NETHERLANDS		5. TELEPHONE (include area code) 011.31.228.315.844		FOR OFFICIAL USE ONLY PVPO NUMBER 200600299 FILING DATE September 19, 2006	
		6. FAX (include area code) 011.31.228.315.854			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) CORPORATION		8. IF INCORPORATED, GIVE STATE OF INCORPORATION NOORD-HOLLAND		9. DATE OF INCORPORATION 1938	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) ENZA ZADEN RESEARCH USA, INC ATTN: MEL HOLLAND/AERNOUDT AARDSE PO BOX 866 SAN JUAN BAUTISTA, CA 95045				FILING AND EXAMINATION FEES: \$ 4,382 - DATE 9/19/2006 CERTIFICATION FEE: \$ 768 - DATE 3/24/2008	
11. TELEPHONE (include area code) 831-623.4644		12. FAX (include area code) 831-623.1746		13. E-MAIL mholland2@ix.netcom.com a.aardse@coastalseeds.com	
14. CROP KIND (Common Name) LETTUCE		16. FAMILY NAME (Botanical) COMPOSITAE		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP LACTUCA SATIVA L.		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)				20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)					

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER 		SIGNATURE OF OWNER	
NAME (Please print or type) J. J. M. LAMBALK		NAME (Please print or type)	
CAPACITY OR TITLE DIRECTOR R&D	DATE 09/18/2006	CAPACITY OR TITLE	DATE

(See reverse for instructions and information collection burden statement)

GENERAL INSTRUCTIONS: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

Plant Variety Protection Office
Telephone: (301) 504-5518 **FAX:** (301) 504-5291
General E-mail: PVP@mail.usda.gov
Homepage: <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>

SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the (U.S.) or other countries.)

DATE OF FIRST SALE : SEPTEMBER 22, 2005

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

SEE ADDENDUM PARAGRAPH 24.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Add Paragraph 24 of Application for Plant Variety Protection Certificate

(Please give country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right)

Variety	IPR	Reference Number	Issue Date	Comments
El Dorado	PVP	# 9300014	03/31/1993	-
Desert Storm	PVP	# 9300164	10/31/1997	-
Premiere	PVP	# 9300168	10/31/1997	-
	US Patent	# 5,684,226	11/04/1997	Licensed to Enza Zaden Beheer B.V.

Exhibit A
Origin and Breeding History of the Variety

Lettuce: 'Midway'

'Midway' originated from a cross made in June 1997 between the icebergs 'Desert Storm' and F4 breeding line 959. Experimental 14.1360CS was the temporary designation of the variety 'Midway'.

'Midway' is a black seeded, lettuce crisphead variety that is adapted to the warm season production areas in the desert South West. It has also performed well in fall transition season production areas in Huron. The objective of the cross was to develop a sure heading iceberg variety with adaptation for the desert fall to winter transition season, resistance to downy mildew (*Bremia lactucae*) CA pathotype I – VI, and resistance to LMV.

The pedigree method of plant breeding employing single plant -and mass selection was used in developing the variety.

Screening for downy mildew (*Bremia lactucae*) resistance was accomplished by inoculating seedlings in trays with fungal spore suspension using mist sprays.

Screening for corky root (*Sphingomonas suberifaciens*) resistance was accomplished by inoculating seedlings in trays with bacterial suspension using injector and maintaining soil temperatures at 28°C +/- 1°C.

Screening for LMV (common strain) resistance was accomplished by inoculating seedlings in peat blocks with a suspension of LMV infected leaf tissue in buffer added with carborundum and maintaining inoculum at 4°C.

Stages of development:

14.1360CS - made from the cross between Desert Storm (female) and F4 breeding line 959 (male) in June 1997.

F4 breeding line 959 - derived from the cross between Jupiter (female) and F4 breeding line 615 (male) made in July 26, 1995.

F4 breeding line 615 - derived from the cross between Premiere (female) and El Dorado (male) made in September 1993.

F1 - Nine single plant selections were made from plants saved from Bremia screening with CA pathotype V in September 1997.

F2 - Mass of 8 plants was made from plants saved from Bremia screening with CA pathotype V, April 1998.

F3 – Five single plant selection were made from San Juan Bautista, CA breeding nursery, April 1999.

F4 – Two single plant selections were made from Huron, CA breeding nursery, March 2000.

F5 – Three single plant selections were made in San Juan Bautista, CA breeding nursery, May 2001.

F6 – Four single plant selections were made in Yuma, AZ breeding nursery, January 2002.

F7 – Six single plant selections were made in Yuma, AZ breeding nursery, January 2003.

F8 – One kilogram of seed was produced in Wasco, CA. This seed was used for testing in Yuma, AZ 2003-2004. An additional 12 plants were massed from the Yuma breeding nursery in January 2004 to use for seed increase.

F9 – Seed from the 12 plant mass above was used to produce 2 kilogram of seed for testing in Yuma, AZ 2004-2005. Seed from this increase was tested as 14.1360CS and used for disease testing (see exhibit D).

From extensive trials in California and Arizona from 2003 through 2005 'Midway' is stable and uniform for type and resistance to downy mildew (*Bremia lactucae*) CA pathotype I-VI and LMV (common strain). Less dense (puffy) head variants have been observed in seed production field at a rate no more than 2 per 41,500 plants.




Exhibit B
Statement of Distinctiveness

Lettuce: 'Midway'

'Midway' most closely resembles 'Desert Storm' and 'Jupiter'.

'Midway' differs from 'Desert Storm' and 'Jupiter' in the following characteristics:

'Midway' is more sure heading and uniform filling compared to Desert Storm resulting in a heavier head weight.

'Midway' is resistant to downy mildew (*Bremia lactucae*) CA pathotypes V and VI while Desert Storm and Jupiter are susceptible to CA pathotypes V and VI.

More specific, the downy mildew (*Bremia lactucae*) resistance expressed in 'Midway' is effective against CA pathotype I through VI due to the presence of resistance factor R18. Expression of downy mildew (*Bremia lactucae*) resistance in 'Desert Storm' is limited to CA pathotype III due to the presence of Dm10 gene (reference: pvp#9300164).

Both 'Midway' and 'Desert Storm' are resistant to common strain of LMV while Jupiter is susceptible.

6

- 'Midway'

Disease tests

LMV test with common strain, Nov/Dec 2005, Enza Zaden, Enkhuizen, Holland

<u>Variety</u>	<u># plants</u>	<u># susceptible</u>	<u># resistant</u>	<u>Result</u>
Midway	15	0	15	resistant
Desert Storm	15	0	15	resistant
Jupiter	15	15	0	susceptible
El Dorado	15	15	0	susceptible
Fatima (RC)	15	0	15	resistant
Denver (RC)	15	0	15	resistant
Cervia (SC)	15	15	0	susceptible
Sprinter (SC)	15	15	0	susceptible
Premiere		reference pvp#9300168		resistant

Corky Root Test No. 2 2005 with *Sphingomonas suberifaciens* CA1, San Juan Bautista, CA

<u>Variety</u>	<u># plants</u>	<u># susceptible</u>	<u># resistant</u>	<u>Result</u>
Midway (F8 - rep 1)	19	19	0	susceptible
Midway (F8 - rep 2)	21	21	0	susceptible
Midway (F8 - rep 3)	23	23	0	susceptible
Midway (F9 - rep 1)	23	23	0	susceptible
Midway (F9 - rep 2)	24	24	0	susceptible
Midway (F9 - rep 3)	24	24	0	susceptible
Midway (F10 - rep 1)	22	22	0	susceptible
Midway (F10 - rep 2)	23	23	0	susceptible
Midway (F10 - rep 3)	24	24	0	susceptible
Desert Storm (rep 1)	9	7	2	susceptible
Desert Storm (rep 2)	23	19	4	susceptible
Desert Storm (rep 3)	24	20	4	susceptible
Jupiter (rep 1)	14	14	0	susceptible
Jupiter (rep 2)	20	20	0	susceptible
Jupiter (rep 3)	22	22	0	susceptible

Downy Mildew Test No. 5 1997 with *Bremia lactucae* pathotype CA V, San Juan Bautista, CA

<u>Variety</u>	<u># plants</u>	<u># susceptible</u>	<u># resistant</u>	<u>Result</u>	
14.1360CS (F1)	17	0	17	resistant	--> 9 single plant sel.
El Dorado (rep 1)	17	0	17	resistant	
El Dorado (rep 2)	15	0	15	resistant	
El Dorado (rep 3)	17	0	17	resistant	
Jupiter (rep 1)	17	17	0	susceptible	
Jupiter (rep 2)	15	15	0	susceptible	
Jupiter (rep 3)	16	16	0	susceptible	

- 'Midway'

Marker Tests

LMV (common strain) resistance test with LMV-1 marker (dominant)
August 2005, Enza Zaden, Enkhuizen, Holland

	# plants	# susceptible	# resistant	result
Midway (candidate variety)	4	0	4	resistant
Desert Storm (most similar variety)	4	0	4	resistant
Jupiter (most similar variety)	4	4	0	susceptible

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Lettuce (*Lactuca sativa* L.)

NAME OF APPLICANT (S) EN2A ZADEN BEHEER B.V.	TEMPORARY OR EXPERIMENTAL DESIGNATION 14.1360 CS	VARIETY NAME MIDWAY
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) POST BUS 7, 1600 AA ENKHUIZEN HALING 1E, 1602 DB ENKHUIZEN THE NETHERLANDS		FOR OFFICIAL USE ONLY PVPO NUMBER 200600299

Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (e.g. 0 9 9 or 0 9) when number is either 99 or less or 9 or less. Measured data should be the mean of an appropriate number (at least 20) of well space plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The Location of the Test Area is:

YUMA, AZ & SAN JUAN BAUTISTA, CA

Color System Used:

RHS 146B

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties, which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Application Variety (a1) MIDWAY Most Similar Variety (c1) DESERT STORM

Standard Regional Check Variety (c2) JUPITER

1. PLANT TYPE: (See List of Suggested Check Varieties on Page 8)

01 = Cutting/Leaf
02 = Butterhead
03 = Bibb

04 = Cos or Romaine
05 = Great Lakes Group
06 = Vanguard Group

07 = Salinas Group
08 = Eastern (Ithaca) Group
09 = Stem

10 = Latin
11 = Other (Specify)

(a1) 06

(c1) 06

(c2) 06

2. SEED:

(a1) 2
(c1) 2
(c2) 2
COLOR
1 = White (Silver Gray)
2 = Black (Grey Brown)
3 = Brown (Amber)

(a1) 2
(c1) 2
(c2) 2
LIGHT DORMANCY
1 = Light Required
2 = Light Not Required

(a1) 2
(c1) 2
(c2) 2
HEAT DORMANCY
1 = Susceptible
2 = Not Susceptible

3. COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day-old seedling grown under optimal conditions.

SHAPE OF COTYLEDONS: 1 = Broad

2 = Intermediate

3 = Spatulate

(a1) 2

(c1) 2

(c2) 2

SHAPE OF FOURTH LEAF:

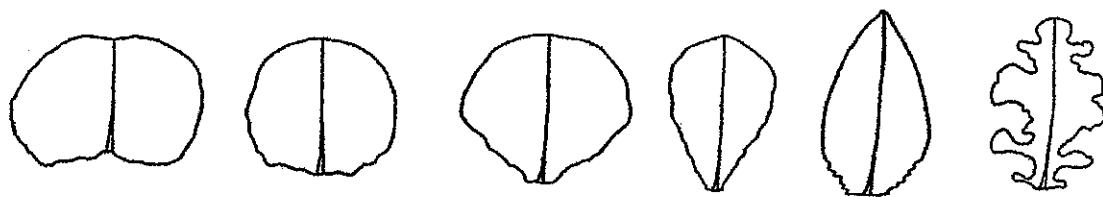
(a1) 4

(c1) 4

(c2) 4

9

3. COTYLEDON TO FOURTH LEAF STAGE: (continued)



1. Transverse oval

2. Round

3. Oval

4. Elongated

5. Lanceolate

6. Pinnately lobed

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

(a1) (c1) (c2)

APICAL MARGIN:

1 = Entire
2 = Crenate/Gnawed
3 = Finely Dentate

4 = Moderately Dentate
5 = Coarsely Dentate
6 = Incised

7 = Lobed
8 = Other (Specify) _____

(a1) (c1) (c2)

BASAL MARGIN: (Use the options for Apical Margin above)

(a1) (c1) (c2)

UNDULATION:

1 = Flat

2 = Slight

3 = Medium

4 = Marked

(a1) (c1) (c2)

GREEN COLOR:

1 = Yellow Green
2 = Light Green

3 = Medium Green
4 = Dark Green

5 = Blue Green
6 = Silver Green

7 = Grey Green

(a1) (c1) (c2)

ANTHOCYANIN:

DISTRIBUTION:

1 = Absent
2 = Margin Only

3 = Spotted
4 = Throughout

5 = Other (Specify) _____

(a1) (c1) (c2)

CONCENTRATION:

1 = Light

2 = Moderate

3 = Intense

(a1) (c1) (c2)

ROLLING:

1 = Absent

2 = Present

(a1) (c1) (c2)

CUPPING:

1 = Uncupped

2 = Slight

3 = Markedly

(a1) (c1) (c2)

REFLEXING:

1 = None

2 = Apical Margin

3 = Lateral Margins

(a1) (c1) (c2)

4. MATURE LEAVES (Observe Harvest-Mature Outer Leaves)

NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

MARGIN:**INCISION DEPTH:**
(deepest penetration
of the margin)

1 = Absent/Shallow (Dark Green Boston)

2 = Moderate (Vanguard)

3 = Deep (Great Lakes 659)

(a1) (c1) (c2) **INDENTATION:** (Finest divisions of the margin)

1 = Entire (Dark Green Boston)

4 = Crenate (Vanguard)

2 = Shallowly Dentate (Great Lakes 65)

5 = Other (Specify) _____

3 = Deeply Dentate (Great Lakes 659)

(a1) (c1) (c2) **UNDULATIONS OF THE
APICAL MARGIN:**

1 = Absent/Slight (Dark Green Boston) 2 = Moderate (Vanguard)

3 = Strong (Great Lakes 659)

(a1) (c1) (c2) **GREEN COLOR:**

1 = Very Light Green (Bibb)

3 = Medium Green (Great Lakes)

5 = Very Dark Green

2 = Light Green (Minetto)

4 = Dark Green (Vanguard)

6 = Other (Specify) _____

(a1) (c1) (c2) **ANTHOCYANIN:****DISTRIBUTION:**

1 = Absent

3 = Spotted (California Cream Butter)

5 = Other (Specify) _____

2 = Margin Only (Big Boston)

4 = Throughout (Prize Head)

(a1) (c1) (c2) **CONCENTRATION:**

1 = Light (Iceberg)

2 = Moderate (Prize Head) 3 = Intense (Ruby)

(a1) (c1) (c2) **SIZE:**

1 = Small

2 = Medium

3 = Large

(a1) (c1) (c2) **GLOSSINESS:**

1 = Dull (Vanguard)

2 = Moderate (Salinas)

3 = Glossy (Great Lakes)

(a1) (c1) (c2) **BLISTERING:**1 = Absent/Slight
(Salinas)2 = Moderate
(Vanguard)3 = Strong
(Prize Head)(a1) (c1) (c2) **LEAF THICKNESS:**

1 = Thin

2 = Intermediate

3 = Thick

(a1) (c1) (c2) **TRICHOMES:**

1 = Absent (Smooth)

2 = Present (Spiny)

(a1) (c1) (c2) **5. PLANT:****SPREAD OF FRAME LEAVES:**(a1) cm(c1) cm(c2) cm

5. PLANT: (continued)

HEAD DIAMETER: (Market Trimmed with Single Cap Leaf)

(a1) cm(c1) cm(c2) cm

HEAD SHAPE:

1 = Flattened

3 = Spherical

5 = Non-Heading

2 = Slightly Flattened

4 = Elongate

6 = Other (Specify) _____

(a1) (c1) (c2)

HEAD SIZE CLASS:

1 = Small

2 = Medium

3 = Large

(a1) (c1) (c2)

HEAD PER CARTON:

(a1) (c1) (c2)

HEAD WEIGHT:

(a1) g.(c1) g.(c2) g.

HEAD FIRMNESS:

1 = Loose

2 = Moderate

3 = Firm

4 = Very Firm

(a1) (c1) (c2)

6. BUTT:

SHAPE:

1 = Slightly Concave

2 = Flat

3 = Rounded

(a1) (c1) (c2)

MIDRIB:

1 = Flattened (Salinas)

2 = Moderately Raised

3 = Prominently Raised (Great Lakes 659)

(a1) (c1) (c2)

7. CORE:

DIAMETER AT BASE OF HEAD:

(a1) mm(c1) mm(c2) mm

RATIO OF HEAD DIAMETER/CORE DIAMETER:

(a1) (c1) (c2)

CORE HEIGHT FROM BASE OF HEAD TO APEX:

(a1) mm(c1) mm(c2) mm8. BOLTING: (Give First Water Date: 04/13/2006) NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE: (summer conditions)

(a1) (c1) (c2)

BOLTING CLASS:

1 = Very Slow

3 = Medium

5 = Very Rapid

2 = Slow

4 = Rapid

(a1) (c1) (c2)

HEIGHT OF MATURE SEED STALK:

(a1)

cm

(c1)

cm

(c2)

cm

8. BOLTING: (continued)**SPREAD OF BOLTER PLANT:** (At widest point)(a1) cm(c1) cm(c2) cm**BOLTER LEAVES:**

1 = Straight

2 = Curved

(a1) (c1) (c2) **MARGIN:**

1 = Entire 2 = Dentate

(a1) (c1) (c2) **COLOR:**

1 = Light Green

2 = Medium Green 3 = Dark Green

(a1) (c1) (c2) **BOLTER HABIT:****TERMINAL INFLORESCENCE:**

1 = Absent

2 = Present

(a1) (c1) (c2) **LATERAL SHOOTS:**

1 = Absent

2 = Present

(a1) (c1) (c2) **BASAL SIDE SHOOTS:**

1 = Absent

2 = Present

(a1) (c1) (c2) **9. MATURITY:** (earliness of harvest-mature head formation)

NOTE: Complete this section for at least one season.

SEASON	APPLICATION VARIETY No. of Days ¹			MOST SIMILAR VARIETY No. of Days ¹			STANDARD REGIONAL CHECK VARIETY No. of Days ¹		
Spring									
Summer									
Fall	① 65	② 66		① 67	② 67		① 67	② 68	
Winter	① 91	② 94	③ 92	① 94	② 96	③ 92	① 94	② 96	③ 93

¹ First Water Date to Harvest

Give Planting Date(s) and Location(s):

Spring: _____

Summer: _____

Fall: ① 08/14/2005 HURON, CA ; ② 08/23/2005 HURON, CA

Winter: ① 09/28/2005, YUMA AZ ; ② 10/05/2005, YUMA AZ ③ 10/07/2005, YUMA AZ

10. ADAPTATION:**PRIMARY REGIONS OF ADAPTATION** (tested and proven adapted):

0 = Not Tested 1 = Not Adapted 2 = Adapted

Southwest (CA and/or AZ desert)

West Coast

Northeast

North Central

Southeast

Other (Specify) HURON, CA

10. ADAPTATION: (Continued)

SEASON:

☐ Spring (Area _____)

☒ Fall (Area DESERT SOUTH WEST, HURON, CA)

☐ Summer (Area _____)

☒ Winter (Area DESERT SOUTH WEST, HURON, CA)

☐ GREENHOUSE: 0 = Not Tested 1 = Not Adapted 2 = Adapted

☒ SOIL TYPE: 1 = Mineral 2 = Organic 3 = Both

11. VIRAL DISEASES:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

Big Vein	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Cucumber Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Tomato Bushy Stunt, cause of dieback	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Turnip Mosaic	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Beet Western Yellows	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Infectious Yellows	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

12. FUNGAL/BACTERIAL DISEASES:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

Corky Root Rot (Races: <u>CA I</u>)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Downy Mildew (Races: <u>CA II, VI</u>)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Powdery Mildew	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Sclerotinia Drop	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Bacterial Soft Rot (<i>Pseudomonas</i> spp. and others)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Botrytis (Grey Mold)	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Verticillium Wilt	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Bacterial Leaf Spot	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Anthracnose	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Other (Specify) _____	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

0 = NOT TESTED

13. INSECTS:

1 = Immune 3 = Resistant 5 = Moderately Resistant/Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

Cabbage Loopers	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Root Aphids	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Green Peach Aphid	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>
Lettuce Aphid	(a1)	<input type="checkbox"/>	(c1)	<input type="checkbox"/>	(c2)	<input type="checkbox"/>

Pea Leafminer	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Other (Specify) _____	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>

14. PHYSIOLOGICAL STRESSES:

1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible		
Tipburn	(a1)	<input type="text" value="5"/>	(c1)	<input type="text" value="5"/>	(c2)	<input type="text" value="5"/>
Heat	(a1)	<input type="text" value="5"/>	(c1)	<input type="text" value="5"/>	(c2)	<input type="text" value="5"/>
Drought	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Cold	(a1)	<input type="text" value="3"/>	(c1)	<input type="text" value="3"/>	(c2)	<input type="text" value="5"/>
Salt	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Brown Rib (Rib Discoloration, Rib Blight)	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Other (Specify) _____	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>

15. POST HARVEST STRESS:

1 = Immune	3 = Resistant	5 = Moderately Resistant/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible		
Pink Rib	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Russet Spotting	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Rusty Brown Discoloration	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Internal Rib Necrosis (Blackheart, Grey Rib, Grey Streak)	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>
Brown Stain	(a1)	<input type="text" value="0"/>	(c1)	<input type="text" value="0"/>	(c2)	<input type="text" value="0"/>

16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS:

17. COMMENTS:

* QUANTITATIVE DATA BASED ON YUM2

SUGGESTED CHECK VARIETIES

TYPE	CHECK VARIETY
1 Cutting/Leaf	Waldmann's Green
2 Butterhead	Dark Green Boston
3 Bibb	Bibb
4 Cos or Romain	Parris Island
5 Great Lakes Group	Great Lakes 659-700
6 Vanguard Group	Vanguard
7 Salinas Group	Salinas
8 Eastern Group	Ithaca
9 Stem	Celtuce
10 Latin	Little Gem

REFERENCES

- Bowring, J.D.C., 1969, "The Identification of Varieties of Lettuce (*Lactuca Sativa* L.)". Journal of the National Institute of Agricultural Botany 11:499-520. National Institute of Agricultural Botany, Cambridge, UK.
- Davis, R.M., K.V. Subbarao, R.N. Raid, and E.A. Kurtz, 1997. "Compendium of Lettuce Diseases". APS Press, St. Paul, MN.
- Michelmore, R.W., J. M. Norwood, D.S. Ingram, I.R. Crute and P. Nicholson. 1984. "The inheritance of virulence in *Bremia lactucae* to match resistance factors 3, 4, 5, 6, 8, 9, 10, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Norwood, J.M., R.W. Michelmore, I.R. Crute and D.S. Ingram. 1983. "The inheritance of specific virulence of *Bremia lactucae* (Downy Mildew) to match R-factors 1, 2, 4, 6, and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Rodenburg, C.M., et al., 1960. "Varieties of Lettuce. An International Monograph", Instituut voor de Verdeling van Tuinbouwgewassen (IVT), Wageningen, NL.
- Ryder, E.J., 1999, *Lettuce, Endive, and Chicory*, CABI Publications, Wallingford, UK.

**Exhibit C – 'Midway'
Pictures**

Fourth true leaf stage of 'Midway'

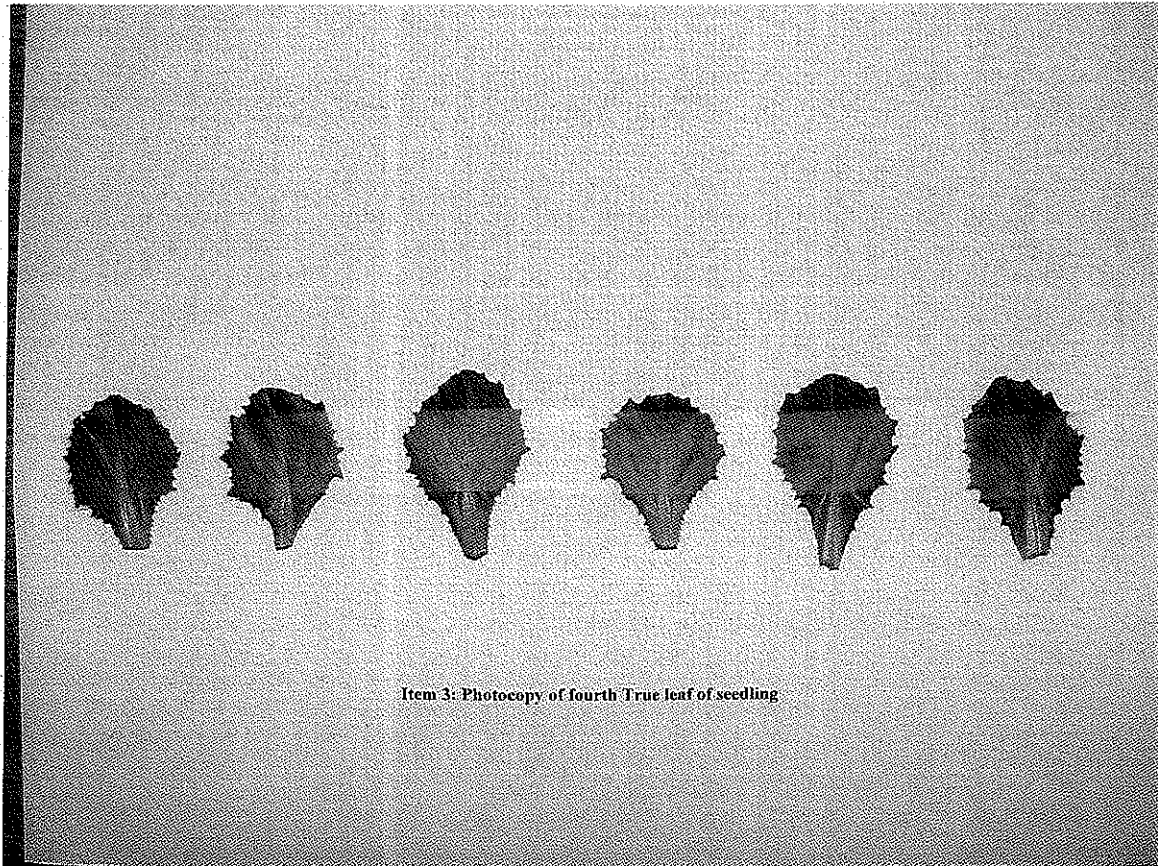
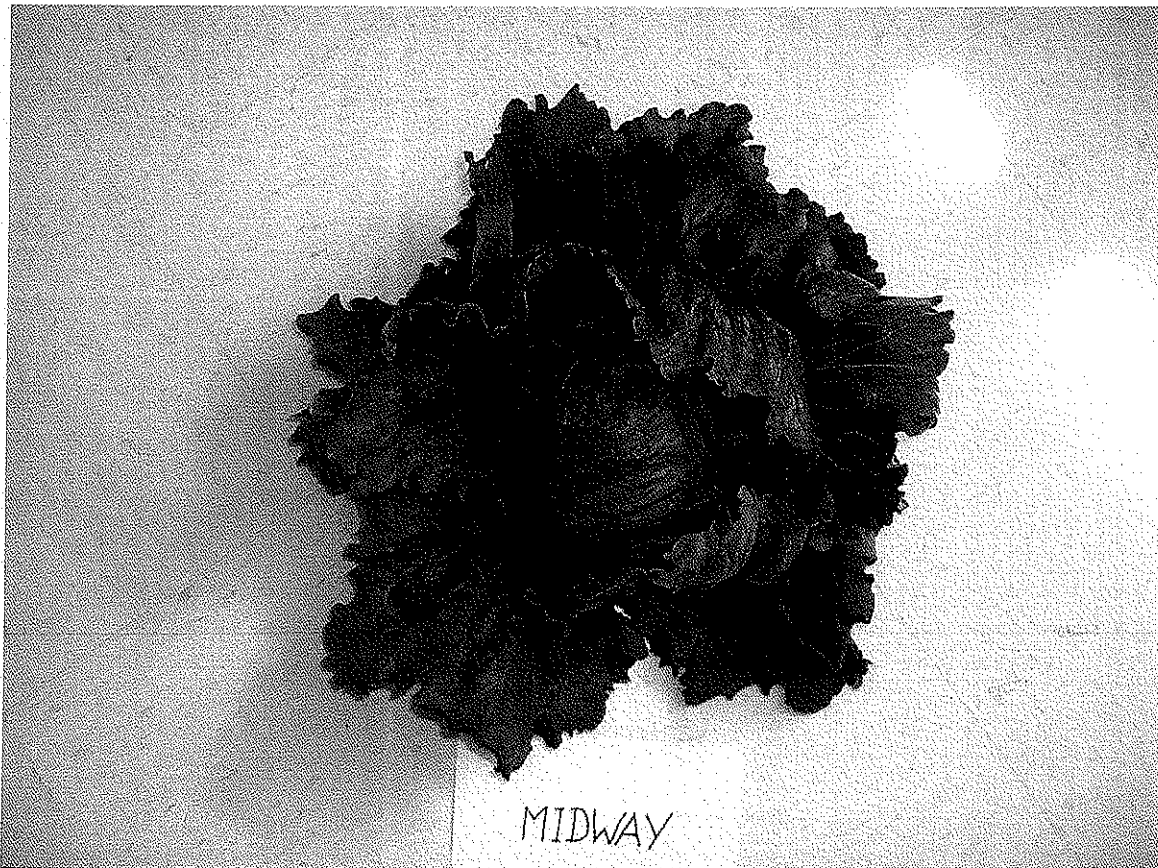


Exhibit C – 'Midway'
Pictures

head of 'Midway'



**Exhibit C – 'Midway'
Pictures**

Leaf of 'Midway'



- 'Midway'

Disease tests (continue)

Downy Mildew Test No. 3 1998 with *Bremia lactucae* pathotype CA V, San Juan Bautista, CA

<u>Variety</u>	<u># plants</u>	<u># susceptible</u>	<u># resistant</u>	<u>Result</u>
Premiere (rep 1)	14	14	0	susceptible
Premiere (rep 2)	10	10	0	susceptible
El Dorado (rep 1)	16	0	16	resistant
El Dorado (rep 2)	15	0	15	resistant
Jupiter (rep 1)	16	16	0	susceptible
Jupiter (rep 2)	17	17	0	susceptible

Downy Mildew Test No. 4 1998 with *Bremia lactucae* pathotype CA V, San Juan Bautista, CA

<u>Variety</u>	<u># plants</u>	<u># susceptible</u>	<u># resistant</u>	<u>Result</u>
14.1360CS (F2)	23	3	20	segregating ---> 8 plant sel. massed
El Dorado	16	0	16	resistant
Jupiter	16	16	0	susceptible

Downy Mildew Test No. 16 2005 with *Bremia lactucae* pathotype CA V, San Juan Bautista, CA

<u>Variety</u>	<u># plants</u>	<u># susceptible</u>	<u># resistant</u>	<u>Result</u>
Midway (F9)	15	0	15	resistant
Midway (F10)	14	0	14	resistant
Cobham Green (Rep 1) SC	12	12	0	susceptible
Cobham Green (Rep 2) SC	14	14	0	susceptible
Colorado (Rep 1) RC	16	0	16	resistant
Colorado (Rep 2) RC	16	0	16	resistant
Durango (Rep 1) RC	15	0	15	resistant
Durango (Rep 2) RC	14	0	14	resistant

- 'Midway'
Quantitative data

SJB1 San Juan Bautista, CA
YUM2 Yuma, AZ

sowing : 5/17/2006
sowing : 09/28/2005

evaluation : 7/21/2006
evaluation : 12/27/2005

SJB1 pit#	Spread of Frame Leaves (cm)			Head Weight (grams)			Head Diameter (cm)			Head Height (cm)			Core Diameter (mm)			Core Length (mm)		
	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter
1	56.5	56.8	54.8	1268.2	1135.2	856.7	14.9	15.2	13.2	14.6	15.1	13.5	39	35.1	34.6	74	92.3	45.8
2	62.3	57.2	54.7	1221.5	1210.9	1010	14.6	14.4	13	14	14.2	13.2	36.1	34.1	32.5	71.2	94.5	60
3	58	55.8	55.1	1096.4	1170	991.6	14.4	14.6	13.2	13.9	14.8	12.9	33.8	35.2	31.9	62.8	90.8	52.8
4	60.9	56.4	55.8	1100.5	1193.3	1161.6	14.4	13.5	13.2	14.5	14.9	14.3	36.2	34.8	39.4	66.8	88.2	65.3
5	62.3	57.2	54.7	1325.5	1214.4	1098.7	14.4	14.4	13.1	14.4	14.5	13.5	44.1	35	36.3	77.3	87.9	57.8
6	52.1	55.8	56.2	1121.9	1354.6	1109	15.5	14.2	13.4	13.1	14.6	14.2	36.7	34.7	37.1	55.9	89.1	88.2
7	54.4	54.1	59.2	1035.6	1009.3	1134.8	13.2	13.8	15.2	12.5	14.5	14.1	31.5	34	37.2	50.6	79.2	88.3
8	57.2	55.8	55.7	1075.3	1249.6	1106	15	14.4	14.6	12.1	14.7	14.7	33.7	35.2	34.8	52.4	86.8	88.5
9	54.2	54.8	58.3	1037.5	1004.2	1217.5	13.7	13.7	14.1	13.8	13.9	15.5	34.8	34.5	40.1	74.2	78.7	93.2
10	64.7	55.7	57.2	1267.3	1272.9	1198.6	15.1	13.2	14.4	14.9	14.5	15.1	39.2	37.8	38.2	76.5	87.6	83.4
11	57.3	56.4	51.9	1007.1	1213.6	1022.7	13	13.4	12.8	13.6	14.7	12	31.3	36.4	35.8	60.8	88.5	92.5
12	55.6	54.6	55.9	1147	1007.4	1090.5	14.2	13.1	14.4	13	14.2	15	30.8	34.9	37.5	71.6	78.2	92.8
13	60.2	56.8	56.4	1259.1	1254.8	1195.2	14.6	13.5	14.1	14.6	14.6	15.3	36.9	35.4	39.7	76.8	91.2	82.5
14	57.3	54.5	56.8	1191.5	1102.4	988.8	13	13.6	13.9	15.6	14.2	13.7	34.8	34.8	35.4	70.2	93.7	77.8
15	62.6	55.7	55.8	929.7	1177.4	1147.1	13.6	14.1	13	15.4	13.8	13.7	34.5	35.3	35.3	79.7	91.8	82.4
16	68.2	56.4	56.4	1228.7	1241.8	1069	15.2	14	13.1	15.1	14	15.2	38.3	36.2	34.7	70.7	87.4	91
17	58.6	54.9	57.2	1099.4	1202.4	1083.1	14.1	13.5	14.7	14.4	13.9	13.9	38.2	35.4	34.5	68.7	88.9	87.6
18	56.7	55.5	54.2	1133.8	1132.6	994.3	14.7	13.7	13.2	15.1	14.3	13.8	36.9	34.8	33.7	71.4	92.6	85.4
19	55.8	56.2	56.8	1351	1099.8	1237.1	14.8	13.3	13.7	15.3	14.5	15.2	37.5	35.4	36.2	89.2	90.5	84.7
20	56.7	55.3	56.9	1202.4	1274.4	1187.4	14.5	13.1	13.9	15	14.6	14.6	35.8	36.2	36.2	69.7	91.7	95.8
Mean	58.6	55.8	56.0	1155.0	1176.1	1094.0	14.3	13.8	13.7	14.2	14.4	14.2	36.0	35.3	36.1	68.5	88.5	78.8
Stdev	3.9	0.9	1.6	111.3	95.3	97.4	0.7	0.6	0.7	1.0	0.4	0.9	3.1	0.9	2.2	8.2	4.7	15.0

YUM2 pit#	Spread of Frame Leaves (cm)			Head Weight (grams)			Head Diameter (cm)			Head Height (cm)			Core Diameter (mm)			Core Length (mm)		
	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter	Midway	Desert Storm	Jupiter
1	49.5	59.2	48.5	818	1496	924	14.9	15.5	15.3	14.6	17.9	14.9	33	42	34	28	49	22
2	55.4	59.5	53.6	1228	1206	452	15.9	13.3	10.8	16.9	18	11.9	40	39	24	37	49	20
3	51.3	54.4	53.4	938	1354	716	13.9	16.3	15.1	15.3	16.9	14.9	34	39	33	35	36	29
4	54.6	50.3	53.1	960	1201	391	15.5	16	12.6	15	17.5	12	37	41	26	29	39	23
5	55.1	57.2	53.3	914	636	587	13.4	11.9	12.9	14	16.7	14	46	37	30	39	28	26
6	53.4	56.3	48.8	972	324	618	15	13.1	13.8	15.8	14.9	14	36	38	31	34	24	27
7	55.7	46.1	50.6	1028	1324	496	14.8	15.3	12.4	16	16.8	14.5	36	37	29	30	43	28
8	52	50.6	54.3	962	1209	792	13.5	12.6	13.4	14.6	18.2	13.8	33	31	30	24	29	28
9	56.2	54.1	54.4	960	506	918	13.6	11.9	14.1	15.2	18.7	15.4	31	31	33	26	40	31
10	56.8	51.2	54.7	1348	360	677	15.2	11.8	15.1	15	15.9	15.1	41	34	32	37	19	22
Mean	54.0	53.9	52.5	1012.8	961.6	687.1	14.6	13.8	13.6	15.2	17.2	14.1	36.7	36.9	30.2	31.9	35.6	25.6
Stdev	2.4	4.3	2.3	157.1	451.1	184.6	0.9	1.8	1.4	0.8	1.2	1.2	4.5	3.8	3.2	5.2	10.3	3.6

- 'Midway'

Statistical Data Midway vs Desert Storm

SJB1 San Juan Bautista, CA sow date: 05/17/06 evaluation date: 07/21/06
 n = 20, F (.05) = 4.10, F (0.01) = 7.35

YUM2 Yuma, AZ sow date: 09/28/05 evaluation date: 12/27/06
 n = 10, F (.05) = 4.41, F (.01) = 8.29

	SJB1		YUM2	
	Midway	Desert Storm	Midway	Desert Storm
<u>Spread of Frame Leaves (cm):</u>				
Mean	58.6	55.8	54	53.9
Std Dev.	3.9	0.9	2.4	4.3
ANOVA (F calc.):	= 9.53 **		= 0.005 ns	
<u>Weight (grams):</u>				
Mean	1155	1176.1	1012.8	961.6
Std Dev.	111.3	95.3	157.1	451.1
ANOVA (F calc.):	= 0.42 ns		= 0.15 ns	
<u>Head Diameter (cm):</u>				
Mean	14.3	13.8	14.6	13.8
Std Dev.	0.7	0.6	0.9	1.8
ANOVA (F calc.):	= 6.25 *		= 1.56 ns	
<u>Head Height (cm):</u>				
Mean	14.2	14.4	15.2	17.2
Std Dev.	1.0	0.4	0.8	1.2
ANOVA (F calc.):	= 0.59 ns		= 18.19 **	
<u>Core Diameter (mm):</u>				
Mean	36	35.3	36.7	36.9
Std Dev.	3.1	0.9	4.5	3.8
ANOVA (F calc.):	= 1.06 ns		= 0.01 ns	
<u>Core Length (mm):</u>				
Mean	68.5	88.5	31.9	35.6
Std Dev.	8.2	4.7	5.2	10.3
ANOVA (F calc.):	= 89.38 **		= 1.03 ns	

- 'Midway'

Statistical Data Midway vs Jupiter

SJB1 San Juan Bautista, CA sow date: 05/17/06 evaluation date: 07/21/06
 n = 20, F (.05) = 4.10, F (.01) = 7.35

YUM2 Yuma, AZ sow date: 09/28/05 evaluation date: 12/27/06
 n = 10, F (.05) = 4.41, F (.01) = 8.29

	SJB1		YUM2	
	Midway	Jupiter	Midway	Jupiter
<u>Spread of Frame Leaves (cm):</u>				
Mean	58.6	56.0	54	52.5
Std Dev.	3.9	1.6	2.4	2.3
ANOVA (F calc.):	= 7.42**		= 2.13 ns	
<u>Weight (grams):</u>				
Mean	1155	1094.0	1012.8	657.1
Std Dev.	111.3	97.4	157.1	184.6
ANOVA (F calc.):	= 3.40 ns		= 21.45 **	
<u>Head Diameter (cm):</u>				
Mean	14.3	13.7	14.6	13.6
Std Dev.	0.7	0.7	0.9	1.4
ANOVA (F calc.):	= 8.11 **		= 3.64 ns	
<u>Head Height (cm):</u>				
Mean	14.2	14.2	15.2	14.1
Std Dev.	1.0	0.9	0.8	1.2
ANOVA (F calc.):	= 0.06 ns		= 6.51 *	
<u>Core Diameter (mm):</u>				
Mean	36	36.1	36.7	30.2
Std Dev.	3.1	2.2	4.5	3.2
ANOVA (F calc.):	= 0.003 ns		= 13.8 **	
<u>Core Length (mm):</u>				
Mean	68.5	78.8	31.9	25.6
Std Dev.	8.2	15.0	5.2	3.6
ANOVA (F calc.):	= 7.25 *		= 9.94 **	

- 'Midway'

Bolting data

Location Buttonwillow, CA
 Wet Date 4/13/2006

	# Days to seed stalk emergence		Height of bolting plant (average)	Diameter of bolting plant (average)
	(range)	(average)		
Midway	73-86	79	43.9	10.2
Desert Storm	73-86	80	45.9	13.7
Jupiter	74-87	82	44.9	14.4

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) ENZA ZADEN BEHEER B.V.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 14.1360 CS	3. VARIETY NAME MIDWAY
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) POSTBUS 7, 1600 AA ENKHUIZEN HALING 1E, 1602 DB ENKHUIZEN THE NETHERLANDS	5. TELEPHONE (Include area code) 011-31-228-315-844	6. FAX (Include area code) 011-31-228-315-854
	7. PVPO NUMBER 200600299	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.



YES



NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

THE NETHERLANDS

YES



NO

10. Is the applicant the original owner?



YES



NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?



YES



NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?



YES



NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) ENZA ZADEN BEHEER B.V.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) POST BUS 7, 1600 AA ENKhuizen HALING IE, 1602 DB ENKhuizen THE NETHERLANDS	TEMPORARY OR EXPERIMENTAL DESIGNATION 14.1360 CS
NAME OF OWNER REPRESENTATIVE (S) ENZA ZADEN RESEARCH USA ATTN: MEL HOLLAND AERNOUDT AARDSE	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 525 LUCY BROWN LANE PO BOX 866 SAN JUAN BAUTISTA, CA 95045, USA	VARIETY NAME MIDWAY FOR OFFICIAL USE ONLY PVPO NUMBER 200600299

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Signature

AERNOUDT AARDSE

Date

09/18/2006